

## Biosoftware - Software For Teaching And Learning Health Topics

Magdala de A . Novaes, Ph.D., Anderson H.F. Carvalho,

Alessandro P. Araújo, José Luiz de L. Filho, Ph.D.

Setor de Bioinformática/Laboratório de Imunopatologia Keizo Asami (LIKA), University Federal of Pernambuco (UFPE), Brazil

**Introduction.** The technological development of the last decades, particularly on informatics, lead to great changes in all sciences. This evolution increased the volume of information, hardening the professional actualization. This difficulty becomes clearer in teaching, once the teachers need to dispose right information, and in time to pass them to their students. The usage of CAI (Computer Assisted Instruction) has contributed a lot in this job<sup>1</sup>. This kind of systems make possible the organized and fast access of information in the specific area, and allow the evaluation of the learning stage of the student, individualizing the content and many times even the time of exposure. The question is how to enroll the teachers in this revolution and introduce these tools in an adequate way in health courses ? In USA many researches point that the utilization of tutorials and Internet has grown significantly conventional learning<sup>2</sup>. In Brazil even not knowing the exact number, it is known that the utilization of these tools is growing<sup>3</sup>. Biosoftware is an environment for building teaching sessions that motivates its utilization for teachers as well for students. It allows the acquisition of the content coming from various sources (books, publications, Internet) through a friendly interface using multimedia resources and the Hypertext philosophy (where the user builds his own utilization sequence)<sup>4</sup>.

**Methods.** The software consist of three modules using multimedia resources and hypertexts (non-linear reading): i) an editor for session building used by teachers ; ii) a session visualizer used by both students and teachers ; iii) a session appraiser, built by the teachers to evaluate the students through a sequence of tests about the specific topic. The software was developed in Visual Basic for Windows 3.11, where topics libraries were built in the form of texts, images and animations, and an user interface that manages the use of these libraries. The content comes from bibliographic reviews in books, in the Internet and in the practical knowledge of the teachers.

**Results.** Two topics libraries were built, one in Biochemistry<sup>5</sup> and one in Dermatology<sup>6</sup>. The teacher could prepare his class in a dynamic way, through the selection of topics and their clinical implications. The greatest difficulty has been the enrollment of teachers in the library building. We believe that two factors have contributed a lot to what ? : a greater use of Internet by the academic staff and mostly its utilization in residences and offices ; the creation of the first discipline of Informatics in Health in the medical course of Brazil's Northeastern in 1995. The utilization of the Biosoftware libraries and its evaluation must happen along 1997, where a greater participation of the teaching staff is expected in the of the software as in the making of the libraries. The software structure permits constant actualization of the suggested topics, which is necessary in the Health area, and makes easier its use in other areas.

**Acknowledgment.** Supported by FACEPE.

### References

1. Hoffer E, Barnet GO. Computer in Medical Education, in "Medical Informatics Computer Applications in Health Care". Addison-Wesley Pub. Cia, 1990.
2. Warner HR. Medical Informatics: A Real Discipline? JAMIA 1995;2;207-14.
3. Sabbatini RME, Martins AG, Carvalho Jr. PM, Ilha JO. Experiências na disseminação pública de recursos de software e informação em informática em saúde para o usuário final no Brasil. IV CBIS 1994;2;53-56.
4. Berk E, Devlin J. Hypertext/Hypermedia Handbook. J. Devlin Editors, Mc Graw Hill, 1991.
5. Carvalho AHF, Araújo AP, Novaes MA, Lima Filho JL. Edubiosoft-um software auxiliar no ensino de bioquímica. III Fórum Nacional de Ciência e Tecnologia em Saúde (FNCTS) 1996;2;757-758.
6. Leite V, Carvalho AHF, Araújo AP et al. Derasoft-um sistema de instrução assistida por computador (CAI) para o ensino de dermatologia. III FNCTS 1996;2;759-760.